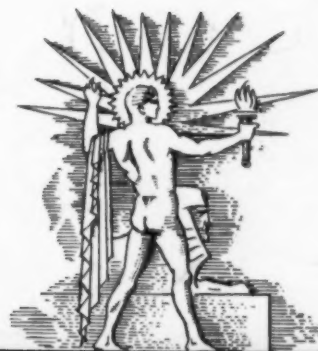


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# SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE •



March 26, 1938

Treasure Island

See Page 196

A SCIENCE SERVICE PUBLICATION

## Do You Know?

South Carolina had an Agricultural Society as early as 1784.

There are at least 135 different native dialects spoken in Burma.

Apparatus has been devised to measure the amount of water used by small trees.

Colorado's college of agriculture has worked out formulae for baking at high altitudes.

Lichens found growing on trees make their own food from water and air, and do not harm the tree.

Hedgehogs in Europe are so fond of eating cockroaches that they are sometimes used to rid houses of pests.

French scientists find that storing shellfish in ozonized water for several days will destroy any disease germs they may harbor.

It takes fine woods at least a year to season outdoors; but in recent experiments such wood was dried in half an hour by radio heat.

Stone Age tools are not necessarily ancient; a professor in Egypt about 30 years ago found a native at Luxor who shaved himself with a flint razor.

A tornado that swept Elgin, Illinois, last year neatly took off one side of a house, removing the back of a cupboard without disturbing the dishes.

## QUESTIONS DISCUSSED IN THIS ISSUE

Most articles which appear in SCIENCE NEWS LETTER are based on communications to Science Service, or on papers before meetings. Where published sources are used they are referred to in the article.

### AGRICULTURE

What has Germany borrowed from the Chinese? p. 200.

### AGRONOMY—GEOGRAPHY

Why is Hungary coveted by other nations? p. 206.

### ARCHAEOLOGY

Was old Stone Age man a skilled artist? p. 196.

### ASTRONOMY

What is the brightest star in the heavens? p. 202.

### BIOLOGY

Can parts of flowers live cut off their stems? p. 201.

Does biology teach that war is inevitable? p. 195.

### BOTANY

Can chemical treatment increase the germination of seed? p. 201.

### CHEMISTRY—AERONAUTICS

Where does helium come from? p. 201.

### ENTOMOLOGY—PHYSICS

How fast can an insect fly? p. 201.

### GENERAL SCIENCE

How much will Uncle Sam spend on education at the coming world fairs? p. 197.

Where can visitors see vitamins manufactured? p. 196.

### GEOLOGY

Do meteorites often hit houses? p. 201.

### MEDICINE

Are tuberculosis and leprosy related? p. 198.

What new remedy has been found for undulant fever? p. 200.

### MEDICINE—PUBLIC HEALTH

Can men live on synthetic food? p. 204.

### MEDICINE—SAFETY

How can the breath of a driver be used as a scientific test of his intoxication? p. 205.

### PSYCHOLOGY

How do dictators rise to power? p. 195.

Why do some persons become addicted to alcohol? p. 200.

The U. S. Department of Agriculture stopped distributing free seed in 1923, but every year thousands of people hopefully request some.

To popularize bathing in rural Chinese neighborhoods where bathtubs are unthought-of, a Chinese doctor makes shower tanks of five-gallon oil tins.

Scientists are studying dialect in the Great Smoky Mountains of the south-east, tracing speech forms brought from Scotland and England by pioneers years ago.

Half of a pigeon's weight consists of its flying muscles.

At a recent international dog show held in England there were 92 breeds displayed.

Arizona's prehistoric Indians sometimes built houses of petrified wood, instead of ordinary stone.

Florence Nightingale's voice, preserved in a record of a brief talk, is one of the treasures owned by the British Broadcasting System.

## SCIENCE NEWS LETTER

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## BIOLOGY

# War is Not Necessary Or Inevitable Biologically

**Cooperation Is as Natural as Competition; Animals Need the Group in Order To Survive, Biologist Finds**

**W**AR is not a necessary or inevitable thing. Apologists for the war system present only a part of the picture of life when they prate of the jungle law of tooth and claw, and equate the survival of the fit with the survival of the fiercest. Biology knows basic cooperation as well as competition; living together for mutual advantage is as fundamental to many orders of animals as is struggle for individual advantage.

These are inferences to be drawn from a survey of group action among animals, presented in a series of lectures given under the auspices of the Norman Wait Harris Foundation, by Prof. W. C. Allee of the University of Chicago.

Prof. Allee has examined typical groups representing the whole of the animal kingdom, from protozoa to man. At each level he has found that behavior and life processes are modified if the animals live together instead of separately, and that often such modifications are to the decided advantage to both individuals and species.

Among the humblest animals, and with one-celled plants as well, it has been found that when a lot of them are bunched together they are harder to poison and to kill with lethal rays than when they are all scattered singly. Also, the individuals live longer and more normally in such social groups.

"Massed spermatozoa retain their power to fertilize eggs longer, and in the animal tested, massed eggs divide more rapidly than if isolated," Prof. Allee reported. "It is of even greater significance that the direction of growth in eggs of certain marine algae may be determined by the relation of the eggs to each other. This means that the fundamental organization of the body may be a result of the position of a given egg with reference to its fellows."

Among higher organisms, the Chicago zoologist found that while over-crowding slows down the rate of growth, a "proper" amount of crowding stimulates growth. This was tested carefully in the case of fishes; and under certain experi-

mental conditions was found to hold true for mice also.

In nature, Prof. Allee pointed out, "In an isolated habitat, a given species requires a certain population to be present if it is to survive. This varies with different species and under different environment conditions. There is recent evidence concerning the minimal numbers present which will allow population growth for several different species."

That is, to paraphrase a famous Biblical passage, it is not only not good for a creature to live alone; it may be impossible.

*Science News Letter, March 26, 1938*

## PSYCHOLOGY

## Hitler Rose to Power Because He Felt Personally Insecure

**By DR. HAROLD D. LASSWELL**

University of Chicago, Author of "Psychopathology and Politics."

**D**ICTATORS are anxiety types. They rise to power as heroes of the insecure because they are themselves profoundly insecure. Their personalities are divided within themselves. They strive to quiet their basic anxieties by demand-

ing unlimited deference from others. They are partially reassured by admiration and acquiescence. Their intensity, their seeming strength of will, are adaptations to acute internal difficulty.

The demagogic dictators of our time, like Mussolini and Hitler, have grown to power by mass appeal and by tactical cunning. Thrilling orators are anxiety types who fly into orgies of identification with the moods of crowds which they seem to dominate. Tactical cunning depends upon basic anxiety. The cunning are alert to threats. The alert are basically anxious and fearful.

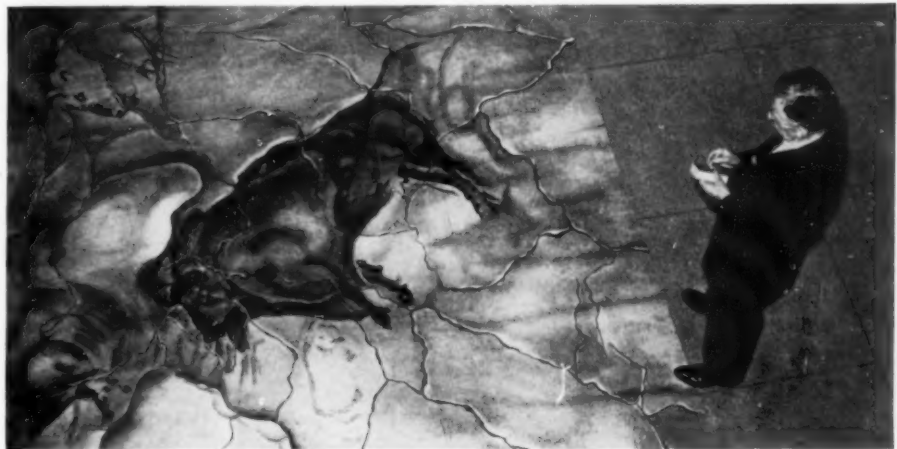
By the road of the dictator lie the heads of those whom he has suspected of disloyalty. Anxious and alert, the dictator strikes down before he is struck down. He lives in perpetual fear and profound isolation. His suspiciousness may overreach itself in an excess of murder which provokes the avenging assassin and the revolutionist. Unbroken success may lead to the arrogance which arises from the appeasement of anxiety, and the loss of alertness which led to power.

*Science News Letter, March 26, 1938*

## ARCHAEOLOGY

## Stone Age Animal Painting Presented to Museum

**F**IRST of its kind to be viewed in America, a huge replica in oils of the famous Old Stone Age animal paintings on the ceiling of the Altamira Cave, near Santander, Spain, has been received by the American Museum of Natural History. It is a present from the noted German scientist-artist, Prof. Leo Frobenius of Frankfurt.



FROM STONE AGE SPAIN

Dr. N. C. Nelson examines a replica of cave drawings just received at the American Museum of Natural History.



The painting, 19 x 27 feet in size, will be hung on the ceiling of the hall containing exhibitions of the evolution of prehistoric culture, just as the famous paintings in Altamira appear. It will be some time, however, before this can be done.

The Altamira paintings were discovered in 1879 by the small daughter of the scientist Sautuola, who had accom-

panied her father on an exploration trip into the cavern. They have subsequently been determined by the famous French anthropologist, Abbé Breuil, as representing the highest stage in development of Old Stone Age art. Nothing to equal them was done afterwards for thousands of years, until the rise of civilization in the Mediterranean basin.

*Science News Letter, March 26, 1938*

#### GENERAL SCIENCE

## World Fairs Planned to Show The Sciences in Action

### Synthetically Fed Animals; Chemical Garden; Electrified Farm; Black Light Are Features Planned

See Front Cover

**M**R. and Mrs. America, 75,000,000 strong, will see the greatest science show on earth next year when the Golden Gate International Exposition in San Francisco and the New York World's Fair open for business.

Themselves two stunning examples of science in action, the two giant 1939 fairs, far surpassing anything ever done in the United States by way of taking the lid off science, will put on a breathtaking demonstration of what goes on amongst the quiet men who man the laboratories and what they teach for today and promise for tomorrow.

Advance reports, one year before elaborate ceremonies marking opening day, from both coasts promise exhibitions that will take visitors into every corner of the domain of science—from the tiny atom to the giant universe.

Huge industrial exhibits; striking stories of health and the war on disease; a pageant of transportation; laboratories on parade; plants grown without benefit of earth; magic carpets riding over cities of the future; "black light" wizardry painting pictures in the dark—these and many more will dramatize the part of science in today's and tomorrow's routine.

#### Railroad Pageant

Keynoted by a \$1,500,000 pageant, "Railroads on Parade," which will tell in an amphitheater seating 4,000 people, the story of the American railroad, New York's World Fair will take the visitor through an awe-inspiring succession of

exhibits painting a picture of scientific progress.

Working perhaps for the first time in public gaze, scientists on man-made Treasure Island in San Francisco Bay, will present a portrait of life in the future.

Laboratory rats will be fed on synthetic foods and will be shown to be healthier than their normal fellow-rodents. Synthetic foods will be manufactured in small quantities on the spot, while onlookers throng the Exposition laboratories. In the Hall of Science, microscopes will be employed to do amazing

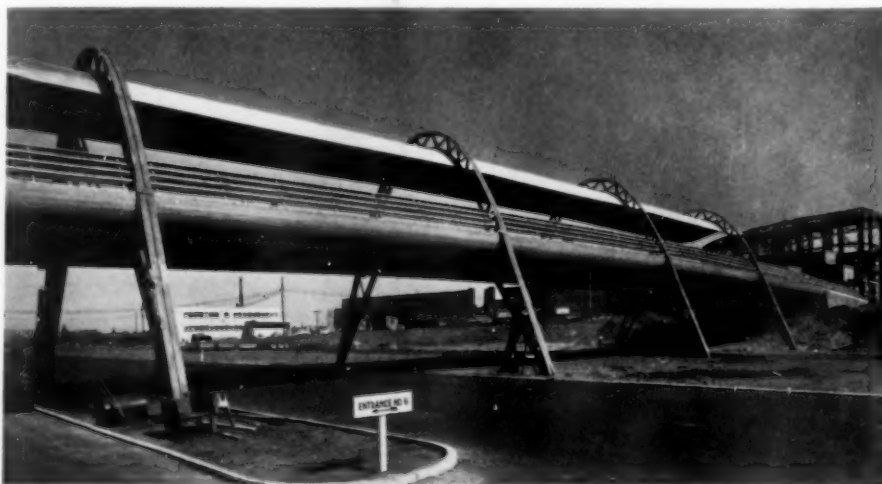
things. These germs introduced to different media will be made to produce a whole variety of products, such as flavorings, perfumes and medicines. Visitors to the Exposition will also have the opportunity of seeing the much-discussed but little-known hormones and vitamins manufactured.

A complete "chemical" garden growing indoors under ordinary incandescent lighting and without the usual soil promises to be a popular demonstration. Corn, peas, melons, squash, spinach and lettuce are some of the crops which will be grown in the Hall of Science without soil or sunlight.

An up-to-the-minute showing of General Electric's famous "House of Magic," in which electricity and electrons are made to perform astonishing feats will be a feature of the Hall of Electricity. "Willie Volcanite," Westinghouse's electrical robot who has even been caught smoking, will be put through his paces in this same building. Television demonstrations will be held. Visitors to the Hall will have an opportunity to listen to the footsteps of insects, as a part of a demonstration of the latest in sound amplification equipment.

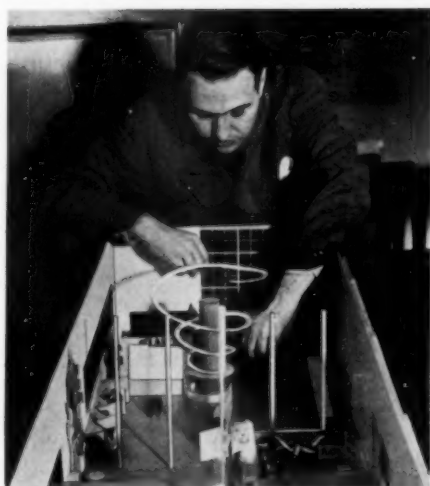
#### Model Farm

A model farm, completely electrified for both housework and forced crop production, will be another unusual feature of the electrical show, it is stated. For the protection of orchards, tested color lamps will be used to attract crop destroying insects to a wire network high-



BRIDGE OF TOMORROW

*Already in service on the grounds of the New York World's Fair of 1939. The graceful structure connects the second floor of the Administration Building with the site of one set of paygates in the central exhibit area. Of marine inspiration, clear-varnished fir, steel and insulating board are materials from which it is built.*



MODEL

Fritz Gutheim, program director for the U. S. Golden Gate International Exposition Commission, looks over a scale model of the Federal government's social welfare exhibit at the San Francisco Fair. Both fairs will be featured by coordinated Federal exhibits built around a number of central themes in place of the uncoordinated exhibits of the past.

ly charged with electricity. Crop production will be stimulated by the use of electric cables to warm the soil, and by the application of ultraviolet rays.

New York Fair visitors, in addition to being treated to spectacular science shows, will obtain a glimpse of the city and countryside of the future inside the 200-foot Perisphere, a 5,700,000 pound globe which, with the 700-foot Trylon spire, will serve as guiding landmarks to the fair ground.

Visitors will be carried over the panoramas on two 100-ton "magic carpets" shaped like gigantic washers. The pillars supporting the platforms while they revolve will be made invisible by special lighting to create the illusion of riding through space. Water fountains outside the Perisphere, supported by eight columns, will hide the pillars to give the illusion that the huge white ball is floating in space.

Science is playing a notable role in the construction of the \$175,000,000 New York Fair, located on what used to be a dreary swamp flat outside Flushing, L. I. Soil chemists saved Fair sponsors half a million dollars by devising chemical means to convert the acid swamp soil into turf suitable for planting the 10,000 trees brought out to the site. They could have brought turf, but the intensive chemical treatment they gave the soil was cheaper.

Black light will be used to paint beautiful murals at the Pageant of the Pacific, main attraction of the Golden Gate Exposition. The two largest murals in the world, each 165 feet long and 65 feet high, will be built of metals, enam-

els, glass and marble. Highlights and studied sections of the scenes will fluoresce under ultraviolet rays from trough reflectors above and below, adding life and change as well as the rich glows characteristic of fluorescence.

*Science News Letter, March 26, 1938*

## GENERAL SCIENCE

## Coordinated Federal Exhibits Replace 'Jumbled Mess'

Scientific Activities of Government Will Be Prominent; Housing, Social Welfare To Be Included

**F**OUR and a half million dollars will be spent during the next year to present to visitors to the 1939 world fairs in New York and San Francisco the first scientifically-designed exhibits explaining the functions of the United States government ever shown, officials of Federal commissions charged with erecting the exhibits disclosed.

For the first time Uncle Sam's shows will be coordinated and streamlined instead of consisting of a "jumbled mess of dull pictures and duller charts" as in the past, it was stated.

Twelve themes will predominate in the \$3,000,000 Federal area at the New York Fair, while eight will tell Uncle Sam's story at the Golden Gate International Exposition in San Francisco.

Not only are the themes to be designed scientifically, but science and the scientific activities of the government will be prominently displayed in each exhibition, spokesmen for the two commissions explained.

Conservation; food; shelter; industry; transport and communication; social welfare; education, arts and recreation and other phases of the nation's life will be some of the New York Fair themes. San Francisco's exhibit will be built around science, social welfare, conservation, housing, national defense, recreation, economic affairs and Indian life.

The social welfare exhibit at the Golden Gate Exposition has already reached the detailed model stage, Harry R. Stutsman, special aide to Secretary of Commerce Roper, pointed out, with other exhibits on the way.

Social welfare will be presented in the form of an "American Biography," taking the average American through life from birth to old age and showing what the government does for him. Pub-

lic health, labor conditions, education, social insurance and delinquency are some of the topics covered.

A new scheme of exhibit planning, making use of "induced circulation" of people through the exhibit rather than the older "forced circulation" type will predominate at all the government exhibits in the west coast exhibition. Fritz Gutheim, program director for the U. S. Golden Gate International Exposition Commission, explained.

"Forced circulation" makes exhibit visitors follow a given route by simply providing no alternatives. The principle underlying the method to be used at San Francisco places exhibits at those points where people normally go. For example, an important chart will be on the right side of the entrance, for it has been found that people look toward the right when entering a doorway.

Nine semi-classic buildings and a twin-towered Federal building will dominate the Federal area at the New York World Fair, Theodore T. Hayes, Executive Assistant United States Commissioner in charge of Federal participation in the New York celebration, revealed. Exhibits will be housed in the nine buildings, with the Federal building devoted primarily to historical matter. It will consist of two towers, the Tower of Judiciary and the Tower of Legislature, flanking a thirteen-pillared portion representing the Executive arm of government and the thirteen original states.

*Science News Letter, March 26, 1938*

Wild sugar cane that endures long stretches of freezing weather in its homeland in Turkestan is being tried out by the U. S. Department of Agriculture.

## MEDICINE

# Conflicting Views on Leprosy To Be Aired at Conference

**View That Buffalo Leprosy and Other Animal Diseases Are Same as Human Leprosy Disputed; Prevention Urged**

**C**ONFLICTING views on the age-old scourge of leprosy are being thrashed out this week as experts on the subject gather for the Fourth International Leprosy Conference at Cairo, Egypt.

Fresh leads for an attack on this plague may even be developed. That is the hope of Dr. Victor G. Heiser, one of the American delegates to the conference. The line along which Dr. Heiser hopes for new leprosy-fighting developments is in the study of a leprosy-like disease recently discovered in water buffalo. He believes that the discovery of this disease suggests that at last scientists may have, in the water buffalo, a "guinea pig" for the study of human leprosy.

This is a moot point which promises to furnish plenty of discussion, the argument centering over whether or not this or any other so-called "leprosy" in animals is the same as human leprosy or nearly enough like it to furnish knowledge that would lead to conquest of the old Biblical plague which is still a major disease problem in many parts of the world.

"Buffalo leprosy" was discovered by Dr. L. W. M. Lobell of the Veterinary Institute at Buitenzorg, Java. It is an infectious disease of the water buffalo, caused by an acid-fast micro-organism, which is said to show very close resemblances to nodular leprosy in humans. Laboratory examinations of the germ and of the tissues of infected animals and the nature of the disease make this animal ailment of "great interest in connection with the study of human leprosy," Dr. Heiser explained before sailing for the conference where he is to discuss reports of this animal disease.

## "Rat Leprosy"

"Heretofore rat leprosy has been the only widely known disease of lower animals analogous to the human affection," he continued, "although rat leprosy has wide differences from human leprosy."

The question of whether the causative organism of "buffalo leprosy" is identical with that of human leprosy and whether mutual infection—buffaloes with

human leprosy germs and vice versa—is possible has not yet been accurately determined, Dr. Heiser pointed out.

"It is expected," he said, "that at the International Congress of Leprosy additional evidence will be available to ascertain whether an experimental animal for human leprosy has been found."

Many leprologists are not so optimistic. They take the view, as expressed by Dr. Earl B. McKinley, dean of George Washington University Medical School, that leprosy in man is one thing and acid-fast bacterial infection in animals is another. (The leprosy germ is an acid-fast bacillus.)

"It is ridiculous to talk of leprosy in mice because acid-fast bacilli have been discovered in one mouse," was Dr. McKinley's forceful comment on a recent, much-heralded discovery of so-called mouse leprosy.

## Large Group

The point Dr. McKinley and many bacteriologists and leprologists who agree with him take is roughly as follows: There is a large group of micro-organisms, small, slender rods, which will hold a red stain or dye even when washed with acid. (Hence the name acid-fast, though it is now better form to call this group mycobacteria.)

These micro-organisms cause a lot of different diseases. Most prominent of the group is human tuberculosis. Next on the list is leprosy. Then come tuberculosis in cattle; Johne's disease or paratuberculosis of cattle; acid-fast bacterial diseases in cold-blooded animals including snakes, fish and frogs; avian tuberculosis which afflicts birds and fowl; and finally, a group of mycobacterial or acid-fast bacterial diseases in rats, mice and water buffalo.

Acid fast bacteria are also found in the soil and in water and are pretty generally distributed, so that they could be picked up by animals from many such sources. The chemistry of these mycobacteria is also very much the same, although a few important differences have been found by Dr. Rudolph Anderson and associates of Yale University. That

is part of another story, however.

Because the germs are so much alike, some scientists for years have been considering some of the animal infections akin to human leprosy. The point does not seem to have been settled yet, though the coming conference may bring agreement. Meanwhile Dr. McKinley declares:

"So far as we know, no other leprosy but human leprosy exists."

## Wants Preventorium

A definite plan for conquering leprosy by eradicating it from future generations will be presented by Dr. H. E. Hasseltine, medical director of the U. S. Public Health Service in charge of the National Leprosarium at Carville, La.

Dr. Hasseltine's plan is to establish a Preventorium, in the vicinity of the National Leprosarium, to which children of leprous parents may be admitted, cared for and educated at government expense until they reach their majority. Such a plan, Dr. Hasseltine believes, would go a long way toward conquering leprosy, in the United States at least, because it would prevent its development in future generations.

Nothing like a specific remedy has yet been discovered for this age-old plague, Dr. Hasseltine says, so preventive measures must be used as far as possible. The Preventorium might not be practical in countries where there are large numbers of lepers, but he believes it would cut down the number of lepers in the United States in the future.

Leprosy in children can generally be traced to infection from a leprous parent or other relative, such as a grandparent. This is probably not a matter of inheritance but of infection by contact. When a child is taken from its leprous parent at birth, it may escape the disease. This much Dr. Hasseltine has learned from his long study of leprosy both in the United States and Hawaii, although he points out that much is still unknown about how leprosy is transmitted.

The mystery is a hard one to pierce because apparently many years may elapse between the time when a person, often unknowingly, picks up the germ of leprosy and the time when symptoms of the disease first appear.

*Science News Letter, March 26, 1938*

The advanced step of counting 365 days to the year, instead of 360, was made by the Egyptians in the year 4236 B. C.



# The Birth Was Registered



## PROUD PARENTS

Papa Penguin (right) greets camera men at the Washington zoo, but Mamma hides the young beneath her so that he cannot see these first penguins of the *Spheniscus demersus* species ever hatched in captivity. They are named Malcolm and Minnie.

## GOOD CITIZENS

To stimulate interest in a national campaign for better birth registration, Dr. George C. Ruhland, District of Columbia Health Officer, went to the zoo and officially recorded the event. The birth certificate is shown at the right, the registration certificate in the upper right corner.

DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS

### STANDARD CERTIFICATE OF BIRTH

State File No. \_\_\_\_\_  
Registered No. 12345

1. PLACE OF BIRTH: County \_\_\_\_\_ State DISTRICT OF COLUMBIA  
Township \_\_\_\_\_ or Village \_\_\_\_\_  
City Washington, D.C. No. 100 St. \_\_\_\_\_ Ward \_\_\_\_\_

2. Full name of child Minnie Penguin

3. Sex Female 4. Date, month, or other Jan 5. Number in order of birth (2) 6. Forename Full form 7. Legible major 8. Date of birth Mar. 15 1938

9. Full name FATHER 10. Residence (street place of abode) Washington, D.C. 11. Color of hair Brown 12. Age at last birthday \_\_\_\_\_ (years)

13. Birthplace (city or place and state or country) Penguin Island, South Africa 14. Trade, profession, or particular kind of work done, as spouse, owner, landholder, etc. Clown 15. Industry or business in which work was done, as owner, manager, clerk, etc. Zoo Park 16. Date (month and year) last engaged in this work Mar. 16 1938 17. Total time (years) spent in this work 2 years 18. Full name MOTHER 19. Residence (street place of abode) Washington, D.C. 20. Color of hair Brown 21. Age at last birthday \_\_\_\_\_ (years)

22. Birthplace (city or place and state or country) Penguin Island, South Africa 23. Trade, profession, or particular kind of work done, as spouse, owner, landholder, etc. Clown 24. Industry or business in which work was done, as owner, manager, clerk, etc. Zoo Park 25. Date (month and year) last engaged in this work Mar. 16 1938 26. Total time (years) spent in this work 2 years

27. Number of children of this mother (a) Total of this birth and including this child 2 (b) Born alive and now living 2 (c) Born alive but now dead \_\_\_\_\_ (d) Stillborn \_\_\_\_\_ 28. If stillborn, period of gestation \_\_\_\_\_ (months) \_\_\_\_\_ (weeks) 29. Cause of stillbirth \_\_\_\_\_

CERTIFICATE OF ATTENDING PHYSICIAN OR MIDWIFE  
I hereby certify that I attended the birth of this child, who was born alive at 7:30 a.m. on the date above stated.  
(When there was no attending physician or midwife, then the father, householder, etc., should make this return.)  
(Signed) \_\_\_\_\_ M. D.  
or \_\_\_\_\_ Midwife  
Given name added from a supplemental report \_\_\_\_\_  
Address Zoo Park, Washington, D.C.  
Filed Mar. 15, 1938 \_\_\_\_\_

## WITNESSES

Malcolm Davis, "Midwife" and bird keeper at the zoo made out the certificate (left, below) and Dr. Ruhland (center figure in picture on right) shows the forms to Dr. William M. Mann, director of the National Zoological Park, and Mr. Davis.



## MEDICINE

**New Chemical Remedy  
Used in Undulant Fever**

**P** RONTOSIL and sulfanilamide, new chemical remedies which have achieved spectacular success in treatment of streptococcus and certain other infections, now show promise of becoming sovereign remedies for undulant or Malta fever.

Apparent cures of cases of this ailment, which is acquired from cattle or from their unpasteurized milk, are reported by L. Aylwin Richardson, surgeon to the Children's Hospital, Southampton, and Dr. A. E. Francis, of St. Bartholomew's Hospital, London. (*Lancet*, Feb. 26). French and German physicians have also reported successful results with Prontosil treatment.

The disease is usually a long drawn out malady characterized by frequent relapses. Most forms of treatment have so far proved unsatisfactory, Dr. Richardson points out in reporting his results with Prontosil treatment of undulant fever. Following the use of Prontosil, or the chemically related sulfanilamide which was used in the cases reported by Dr. Francis, recoveries were rapid—dramatically so in one case.

The germ which causes the disease is also susceptible to sulfanilamide in test tube experiments, Dr. Francis found. Germs of other diseases against which the chemical has proved an effective remedy have not been so readily destroyed by it in test tube experiments.

*Science News Letter, March 26, 1938*

## PSYCHOLOGY

**Study Characters to Find  
Why Some Become Toppers**

**O** F ten people who develop a liking for alcoholic drinks, seven will be able to take it or leave it—three will become addicted and unable to break the habit.

This is the estimate of the late Dr. William A. White who treated many a sufferer from alcoholism when he was Superintendent of St. Elizabeths Hospital. Some knowledge of why the three become enslaved is derived by a study conducted by Dr. Walter A. Miles of Yale University's School of Medicine and Institute of Human Relations, and reported to *Mental Hygiene*.

Although drinking to be sociable may serve to introduce the habit, the excessive drinker usually wants oblivion rather than convivial pleasure. The alcoholism

patient is a solitary drinker, it was found.

The drinking of the alcoholism victim may not be excessive. Although some may consume large quantities, others may become intoxicated from a very small amount.

The alcoholic victim is usually a man and a city dweller. He began to drink excessively at about the age of 18. He is the son of a very emotional mother and has other members of his family also victims to alcohol addiction.

The drink habit is not the only habit associated with their mouths. As children they probably sucked their thumbs. Maybe they like to chew tobacco or gum and use their mouths in talk. They have food idiosyncrasies and are finicky about their food.

Some seem to be effeminate; their fondness for male society is marked. They may be Don Juans due to overcompensation for this natural effeminateness. Those who are married are unhappy with their wives.

More should be learned about the personalities that belong in the group providing the unfortunate three of alcohol's victims, Dr. Miles points out.

An interesting link has been found between high altitude sickness, intoxication, and mental disease. Oxygen deprivation appears to be the factor common to all.

From this discovery new avenues of research on the cause and cure of alcoholism open wide.

*Science News Letter, March 26, 1938*

## CHEMISTRY

**McMillen Ranking Officer  
Of Chemical Foundation**

**W**HEELER McMILLEN, editorial director of Country Home, is now the ranking officer of the Chemical Foundation as a result of his election to its vice-presidency.

The trustees have decided to leave vacant the office of president which was occupied by the late Francis P. Garvan, under whose direction for 18 years the Chemical Foundation played a major role in American chemical development.

William W. Buffum, treasurer and general manager, announced that the Chemical Foundation would continue its support of research, giving particular emphasis to new chemurgic industries through use of farm products as industrial raw materials. Mr. McMullen is also president of the National Farm Chemurgic Council.

*Science News Letter, March 26, 1938*

**IN SCIENCE**

## AGRICULTURE

**Germany Undertakes Raising  
Of Own Soybean Supplies**

**G**ERMANY, seeking economic self-sufficiency in raw materials and foodstuffs, especially in the all-important oils and fats, has undertaken the encouragement of large-scale cultivation of soybeans, hitherto imported in considerable quantities from Manchuria.

Systematic testing of the hundreds of known varieties of soybean is in progress, as well as breeding to produce new kinds better adapted to the German range of soils and climates. Werner von Haken, an agricultural economist, has blocked out areas on the map where good results may normally be expected, and others where the chances are not so good.

Roughly a fifth of the total area of Germany is in the first-choice soybean regions. These are principally in the southwestern and central parts of the country. An additional two-fifths is second-choice soybean territory, where success will be largely conditioned by local conditions and the skill of the individual farmer. The rest of the land, in the north and east and the mountainous south, is not recommended for soybean culture.

Herr von Haken's discussion contemplates large use of soybeans as human food. The Chinese have for centuries made a large variety of palatable dishes out of soybeans, which constitute the principal source of protein food for most of the population. Herr von Haken believes that crowded, blockade-threatened Germany would do well to follow the Chinese example.

Despite the fact that Manchurian soybeans can be imported into Germany more cheaply than they can be raised there, Herr von Haken feels that large-scale cultivation at home is desirable, even aside from questions of national policy. The imported soybeans, he points out, are a mixture of varieties and therefore do not cook uniformly. He also states that the home-produced soybeans are usually superior in flavor.

*Science News Letter, March 26, 1938*



# CE FIELDS

## CHEMISTRY—AERONAUTICS

### Helium, Sun Element, Soon To Hold Airship Aloft Again

**S**OON the compressors at Amarillo will be whirling full speed handling millions of cubic feet of natural gas in order that helium, the sun element, may again hold aloft an airship.

Twenty years ago with great secrecy American engineers and chemists converted helium from a "rare" gas, commanding \$2,000 a cubic foot, into a non-inflammable competitor to hydrogen as a lifting gas for balloons and airships. When the armistice was signed thousands of cubic feet of helium in cylinders were on a New Orleans wharf ready to be shipped to Germany to do their bit in the fight against the Germans.

Now the Germans of today, the disaster of the hydrogen-filled Hindenburg fresh in their memories, are about to use some 18,000,000 cubic feet of helium for the initial inflation and replenishment during flights that the new Zeppelin LZ-130 will make this summer between Europe and the United States.

America has a monopoly on commercial supplies of helium and Congress after the burning of the Hindenburg enacted a law allowing its sale for restricted commercial, research and medical uses.

The extraction of the 1.8% helium in the natural gas from the Cliffside field in the Texas Panhandle is the task of the U. S. Bureau of Mines. Underground in the Government-controlled gas field that supplies the Amarillo plant there is an estimated reserve of 1,800,000,000 cubic feet of helium, enough for years to come.

Not content with such a reserve, Uncle Sam has set aside some smaller gas fields in Utah that are much richer in percentage of helium and steps are being taken to purchase helium properties near Dexter, Kansas, and Thatcher, Colo.

Sufferers from asthma, and "sand-hogs" and deep sea divers who work under pressure, will benefit from the availability of helium. The gas is used in pre-

venting the "bends" when under-pressure workers are decompressed. And helium is proving useful in treatment of respiratory diseases.

*Science News Letter, March 26, 1938*

## BIOLOGY

### Plant Parts Live For Year or More Alone

**F**LOWERS commonly fade quickly, but their parts have been kept alive, with active cells, for as much as a year or more, by Prof. Carl D. LaRue of the University of Michigan. (*Science*, Mar. 11)

In the experiments, parts of flowers were cleared of all forms of germ life and kept in glass vessels on sterile culture media containing appropriate foods. Petals, stamens, and other flower organs survived from 200 to 365 days. Some of them might have lived longer, but the research was discontinued at the end of a year.

*Science News Letter, March 26, 1938*

## GEOLOGY

### Baxter Meteorite Recovered by Museum

**T**HE SKY flamed, something crashed through the roof of Mrs. Jackson's house in Baxter, Mo. Later, the missile was taken out and found to be a small meteoric stone.

Now, 22 years after the fall, the meteor has come to the attention of scientists, and was secured for the Colorado Museum of Natural History by H. H. Ninninger, curator, who describes the visitor from space (*Science*, Mar. 11).

Only one other North American meteorite, the Kilbourn stone, from Wisconsin, is known to have fallen on a building.

*Science News Letter, March 26, 1938*

## BOTANY

### Chemical Treatment Causes Increase in Germination

**D**ORMANT lettuce seed will germinate much more freely if treated chemically before planting, Dr. Ross C. Thompson and William F. Koser of the U. S. Department of Agriculture have discovered. (*Science*, Mar. 4)

Most successful of the chemicals used was thiourea. A one-half per cent solution of this compound caused the germination of 94 per cent. of the seeds tested, as compared with a little less than 23 per cent. in the case of "control" lots of seed treated only with water.

*Science News Letter, March 26, 1938*

## ENTOMOLOGY

### 800-Mile-An-Hour Insect Debunked by Science

**T**HAT 800-mile-an-hour insect, the deer botfly, has been completely debunked by science. Twenty-five miles an hour would be more like a reasonable speed for the creature, declares Nobelist Irving Langmuir, associate director of the General Electric research laboratories. (*Science*, Mar. 11)

Dr. Langmuir went at the problem of the fly's alleged high velocity—almost twice the speed of the fastest airplane—in a number of ways. Both by theoretical calculations and laboratory experiments he proved that it just can't happen.

The fly's speed has been given as 818 miles an hour in widely circulated reports. To do that, Dr. Langmuir calculated, it would have to develop five-tenths of a horsepower—rather formidable job for an insect. In doing so, it would have to consume about one and one-half times its own weight in food every second it is in flight—and it carries no lunchbox.

But supposing it could develop such power and attain that speed. Against its practically flat head there would develop a pressure of about eight pounds per square inch, probably enough to crush it. If it struck human flesh at the velocity of 818 miles an hour (400 yards per second) it would exert a force of 310 pounds, or about four tons per square inch. That is, it would be a fairly efficient bullet, and would cause a serious wound; nothing of the kind has ever been reported.

In his laboratory experiments, Dr. Langmuir suspended a lump of solder of approximately the dimensions of the fly on a silk thread and swung it at various velocities in a brightly-lighted, white-ceilinged room.

At 13 miles an hour it could be seen only as a blur; at 26 miles it was barely visible; at 43 miles it appeared only as a faint line and its direction could not be told; at 64 miles an hour it became completely invisible. Laboratory light intensity measurements bore out the experimental results: at 64 or more miles an hour an object the size of the deer botfly becomes invisible.

Dr. Langmuir concludes with the estimate that a speed of 25 miles an hour is a reasonable one for the insect, while 800 miles an hour is "utterly impossible."

*Science News Letter, March 26, 1938*

## ASTRONOMY

# Bright Stars

## Ten First Magnitude Stars Decorate the Heavens During April—a Maximum for the Whole Year

By JAMES STOKLEY

IF ONE wishes to see bright stars in the evening sky, this is the time of year to look. A comparison of the number of those of the first magnitude which are shown on these maps during different months will reveal that, on the average, just under eight are shown in each pair. August is smallest, with five. But during April there are ten. This month and March are the only two months with so high a score, though four months—January, May, June and December—each have nine.

Brightest of all April stars is Sirius, the dog-star, in Canis Major the great dog. Shown on the maps (in the position for 10 o'clock on the first of April, 9 o'clock on the 15th, and 8 o'clock on the 30th), it is low in the southwest. Almost directly west, at these times, is Orion the warrior. The three stars in a row, forming the belt, are characteristic. Above these is Betelgeuse. A little earlier, about 9 o'clock on April 1, an eleventh first magnitude star, Rigel, appears below the belt stars.

Near Orion to the right, is Aldebaran, part of Taurus the bull. Higher and still farther north, is Capella in Auriga, the charioteer. Directly above Orion are the Twins, Gemini. Pollux, brighter of the two, is to the south. Below this group to the left is the sixth bright star, Procyon of Canis Minor, the lesser dog.

Now turn to the south. High in the sky is the lion, Leo, part of which forms the Sickle. Another bright star, Regulus, is at the bottom of the handle of this agricultural implement.

A good way to find the next two bright stars is to look at the ever familiar Great Dipper high in the north. By following to the south the curve of the handle you come first to Arcturus, in Bootes the bear-driver, then to Spica, in Virgo the virgin. The last bright star is Vega, in Lyra the lyre, seen very low in the northeast. Since the stars rise, as the sun does, this will more easily be seen about an hour or two after the times of the maps.

No planets this month are in a position to be shown on the maps, though

they can be seen earlier. About April 2, elusive Mercury may be glimpsed more easily than at any time this year. Then it sets nearly two hours after the sun, and is visible low in the southwest. Venus will also be seen, below Mercury, and still more brilliant. Mercury appears for only a few days and then draws again into the solar glare. Venus is now drawing away from the sun, and coming into better view in the evening sky. Mars, much fainter than the other two, is also visible in the early evening to the southwest, where its red color may distinguish it. Saturn, this month, is too close to the sun to be seen at all. Jupiter is now seen in the morning sky, rising in the east about two hours before sunrise.

In April evenings, the best known of all star groups is in its best position of the year. This is the "Great Dipper," now shining in the north nearly overhead. The dipper is upside down, the handle to the right. The two lefthand stars in the bowl, Dubhe below and Merak above, are the pointers which show the direction, downwards, of the Pole Star.

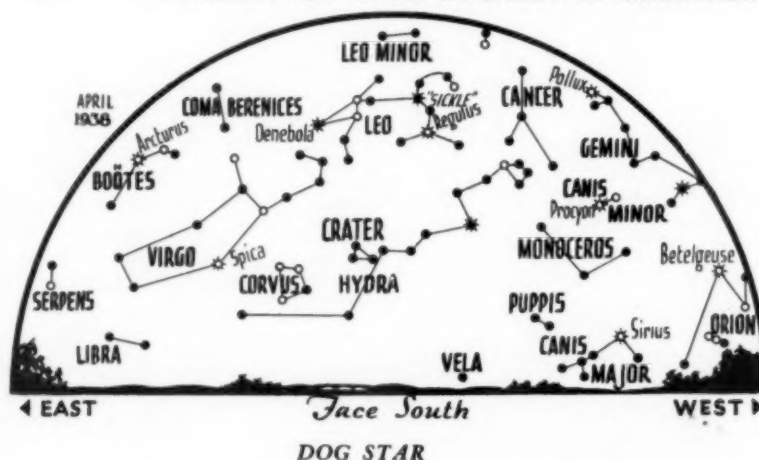
Though we know the stars as the dipper, there are many other names given to them. In England, for example, they are either "the Plough," or "Charles' Wain," that is, "Charles' wagon," re-

ferring to King Charlemagne. The Germans have a name which means the same thing, "Karlswagen." Sometimes, however, they call it "Himmelswagen" which means "the heavenly wagon." In some parts of France it is "le casserole," or "the saucepan."

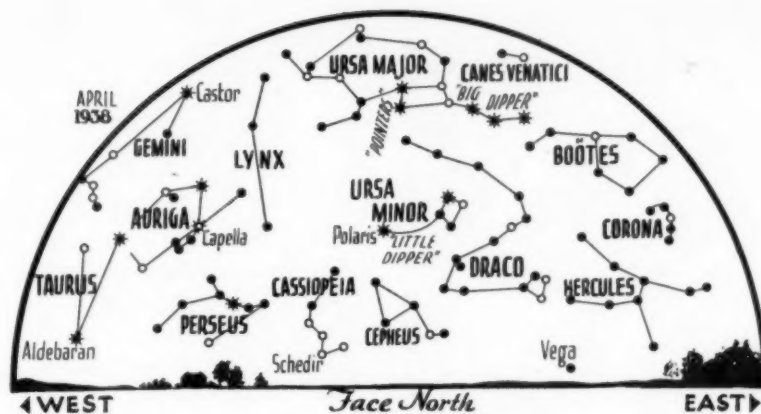
To the Arabs it was quite different, for they pictured it as a funeral procession. The four stars of the bowl of the dipper formed the bier and the stars of the handle were the mourners. Apparently it was the custom to have paid mourners in such a procession, and some member of the family brought up the rear to see that they did their work properly. Hence, the last star in the handle was called "Kaid Banat al Naash," means "the chief mourner." Today two names are given to this star, each of which is derived from the Arabic name. One is "Alkaid" and the other "Benet-nash."

Next star in the handle is Mizar. Close to it is a dimmer star called Alcor, one of the faintest to have a commonly used proper name. Through a telescope, Mizar itself is seen to consist of two separate stars, and a fourth star appears close by, between them and Alcor. Now it is known that a very large proportion of all the stars in the sky are double, but Mizar was the first to be so recognized. In more recent times, studies made with the spectroscope have shown that each of the stars of which Mizar consists, and Alcor as well, are double in turn. So here, where one star

### ☼ \* ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS



Sirius, brightest of them all, shines low in the southwest.



## GUIDING STAR

Polaris, directly north, is but one of the many bright bodies illuminating the northern heavens during April.

can be noticed at first glance, there are really seven.

Actually, the great dipper is not a constellation but only part of a constellation, that of Ursa Major, the great bear. It is certainly difficult to see the resemblance but it was called a bear by people in widely scattered parts of the earth, the Greeks, the Finns, the Babylonians, and the American Indians. To the latter, familiar with bears, the three stars of the handle of the dipper, the Arabic mourners, marked three hunters pursuing the bear, which was formed by the four stars of the dipper's bowl. The others, however, imagined that the handle formed the bear's tail, despite the fact that bears do not have such long tails.

All the stars of the dipper, except the two at each end, have an interesting connection with a number of other stars in the sky, including Sirius. These are all moving through space at the same speed and in the same direction. Beta Aurigae, the bright star to the southeast of Capella, is another of this group.

Thus, the seven stars of the dipper merely happen to form that figure at the present time. As the end stars move

in one direction, and the rest in another, the dipper will gradually change shape. But not for many thousands of years will the motion be enough to alter the appearance to any great extent.

During this month, the moon goes through its phases as shown in the table below. In the evening of April 1 it will appear as a very slender crescent between Mercury and Venus. On April

20, when it is nearing last quarter, people in the eastern part of the country will see it cover, or "occlude," the fourth magnitude star mu Sagittarii, which is in the constellation of Sagittarius, the Archer. At Washington, the star will disappear at 2:01 a. m., E.S.T., and will reappear at 3:24 a. m. For other places the times will be different by several minutes. With the naked eye it will not be very easy to see a star of this magnitude so close to the moon, but a good pair of binoculars should reveal it. The disappearance will be behind the bright, sun-lit portion of the moon but the edge from which it will reappear will be dark, and so the star will suddenly pop out, apparently from nowhere.

The moon is closest the earth, at perigee, at 11 p. m. April 4, with a distance of 229,000 miles. Apogee, the time at which it is farthest, comes at noon on the 20th, with 251,400 miles.

## Phases of the Moon

		E.S.T.
First Quarter	April 7	10:10 a. m.
Full Moon	April 14	1:21 p. m.
Last Quarter	April 22	3:14 p. m.
New Moon	April 30	12:28 a. m.

Science News Letter, March 26, 1938

## THE AUTOBIOGRAPHY OF GENERAL ISAAC J. WISTAR

(1827-1905)

Published December, 1937

Almost hermetically sealed for 32 years after his death, the autobiography of General Isaac J. Wistar, colorful character of a colorful period, gives the American reading public a fresh, first-hand account of the nation's roisterous makers, from the Forty-Niners to the early industrialists.

Written from his diary and contemporary notes, Wistar's opus was intended only for close kinsmen's consumption. It tells with especial frankness of the gun-fights and slayings, raw deals and chicanery of the opening of the Far West. In these Wistar, though of heroic stature, is not a hero to be emulated by good little boys. His will, upon his death in 1905, prohibited publication of the autobiography for at least 5 years. In 1914, The Wistar Institute of Anatomy and Biology, which he endowed, cautiously printed 250 copies with a foreword which bound their select readers to confidence.

This new limited edition is published, turning new light on historical controversies of the Civil War period and giving naturalists one of the few eye-witness accounts of the virgin wonderland of the Northwest by a nature lover who literally blazed its trails.

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# RADIO

March 31, 4:00 p. m., E.S.T.

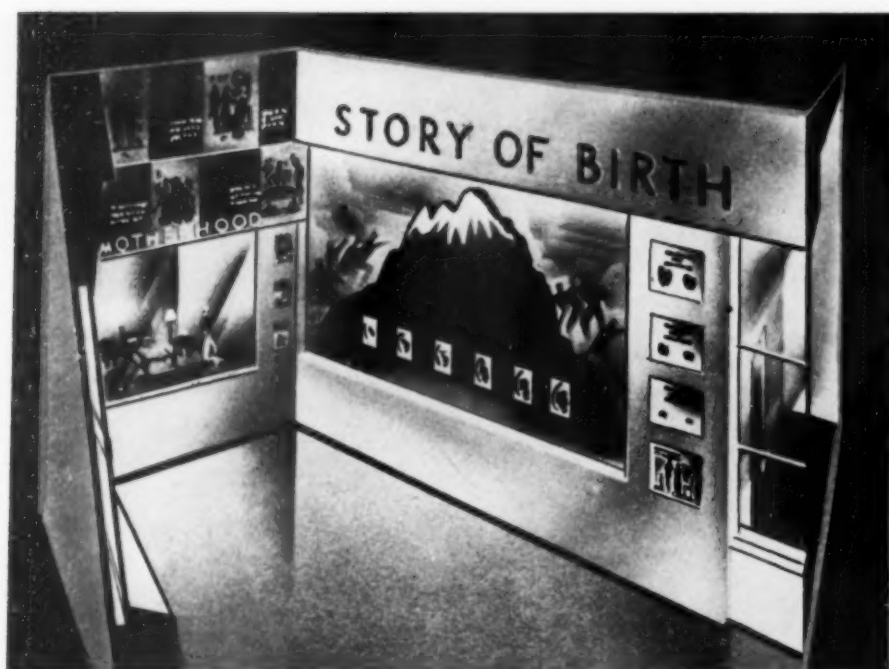
VISITING THE SICK—Miss Mary Ryan of the American Red Cross.

April 7, 4:00 p. m., E.S.T.

ORCHIDS FOR YOU—Dr. David Lumsden of the U. S. Department of Agriculture.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.





VIVID, FACTUAL EXHIBITS

*It is planned to take the mystery out of medicine at the medical and public health sections of the New York World's Fair.*

MEDICINE—PUBLIC HEALTH

## Story of Life and Medical Research To Be Told at Fairs

**Visitors May See the Story of Birth and Life and May Walk Through Mouth to Learn About Teeth**

**Y**OU enter a hall which is like a vast cathedral. At the far end you see a heroic figure—a man 18 feet tall, transparent, his great heart illuminated and visibly beating. You hear a steady, throbbing sound: lubb, dup, lubb, dup, lubb, dup, the constant, continuous 70-per-minute beating of the heart. You are in the Hall of Man, prelude to the medical and public health exhibit of the New York World's Fair 1939. That low throbbing heartbeat whose sound permeates the entire hall symbolizes the wonder of life. This is the theme of the whole huge exhibit, chosen from the words of St. Augustine, that of all wonders of the world, "man himself is the most wonderful."

With the heart beat sounding in your ears, a sort of magnified echo of the beating in your own breast, you may wonder, first, how it started. You can

find out in a special exhibit which tells the story of birth. Here you will find a factual presentation of how conception takes place, how the unborn child develops, what happens to him when he is born.

Or you may wonder how long your own heart will continue its steady lubb, dup, lubb, dup, as it pumps the blood into your body and provides life and nourishment for every one of the millions of tiny cells of which you are made. About 60 years is the longest the average man today can expect his heart to go on beating. But 10 more years could be added to that, medical scientists tell you, if the facts they know about the care of the body were universally applied. As you go through the medical and health exhibits you will learn those facts. The entire medical and health project of the New York World's Fair has been

designed especially to make it easy for you to find out about them. More than 350 outstanding medical and public health authorities have put their heads together to plan and stage this huge, exciting show. They have called on all the arts and technics of stage, screen and radio to tell you the story of life, health and disease.

### Behind Hospital Scenes

You probably have been to a hospital, as a visitor if not as a patient. At the New York World's Fair you will be able to learn many amazing things you never guessed about hospitals, for one exhibit will take you behind the scenes and show you not only what goes on in wards and operating rooms but how the housekeeping is done, and the activities in other departments such as laboratories, pharmacy, kitchens, laundry and light and power plants.

You will even have a chance to try your own hand at diagnosing, as it were. In the exhibit on tuberculosis, you will be asked to select from a large number of photographs the individuals you think are tuberculous. Many visitors will guess wrong on this, because the sufferer from tuberculosis does not always show the condition in his outward appearance. Doctors use X-ray pictures of the chest and the tuberculin test to help them diagnose the condition. The exhibit will show how this test is made and also will show you a specimen of a normal healthy lung and one showing signs of tuberculosis.

Many people still hate to go to the dentist. In the dental exhibit "living teeth" will be shown as "living tools." If you wonder what good it does to go to the dentist or what will happen to you if you neglect your teeth, you can find out by pushing a button. The answer to your question will immediately flash on the screen. Part of the dental exhibit will be a huge mouth. You will walk into this over a rubbery floor, representing the tongue, and find yourself surrounded by rows of huge teeth above and below.

### No Commercialism

Commercialism is completely banned from the medical and health exhibits and there will be no exploitation of miscellaneous organizations and products at the New York World's Fair. The exhibits are being planned by committees of health and medical authorities. Various groups—professional, scientific, commercial and voluntary—are cooperating

in financing the exhibits. Cooperators, both commercial and non-commercial, are limited to organizations of the highest standing. The bronze plaque in each exhibit, bearing the name of the sponsor, carries considerable prestige because it indicates professional acceptance of the sponsoring company. A Professional Club will provide a place for representatives of sponsors to meet physicians and other professional visitors and discuss the application of their products to medical practice.

While the New York World's Fair in its medical and public health exhibits will tell the story of man and how he can live longer and better in the World of Tomorrow, the Golden Gate International Exhibition at San Francisco has a different story to tell you about health and medical matters, and will tell it in a different way.

Here you will get a chance to look behind the scenes of some of the world's most famous laboratories, in which chemists, biologists and other scientists are working at medical and health problems. This will be no mere imitation or pretense of scientists at work, but the real thing. Research workers from the leading universities of the West will be working in the laboratories, transferring their activities for the time from the laboratories of their home institutions.

### Life in the Future

The results of this research which you can glimpse at the exposition will make life for future generations something very different from that we know today. The idea that some day our food will consist of a few capsules or pills of concentrated, scientifically correct nutrients is not new. The day when that dream can be realized is no longer far distant, it appears, and has already dawned for laboratory animals. At the Golden Gate Exposition you will see some of these animals that have been fed nothing but chemically compounded capsules from birth. With them you will see animals reared on a normal diet and the scientists will show you that the chemically fed animals are healthier and happier because their diets are controlled to the minutest fraction.

Capsule feeding of humans would be prohibitively expensive at present, but in the event of emergency such as war or disaster cutting off a population from its food supply, this synthetic feeding could perhaps be resorted to in future. Methods of manufacturing in the test tube the essential fats, sugars and pro-

teins for such a diet will be shown publicly for the first time at the San Francisco fair.

Another unique feature of this exposition will be a demonstration of how drugs work on the human system. From this you can see what happens in your body when you take an aspirin tablet, for example, or when the doctor gives a hypodermic injection of morphine to relieve pain or of digitalis for treatment of heart disease. Mechanical models, charts and a new and improved edition of the transparent man will be used to tell this story of medicine.

### MEDICINE—SAFETY

## Drinking Drivers Dangerous As Well as Drunken Ones

### Man Who Does Not Appear Drunk May Nevertheless Have Impaired Coordination That Makes Him a Menace

**T**HE DRINKING driver, as well as the drunken driver, must be convicted by the courts, if the automobile accident toll is to be reduced. Even minor degrees of intoxication may have serious consequences.

Dr. Sydney Selesnick of Boston is the authority for the foregoing statement.

He presents (*Journal, American Medical Association*, March 12) the first of a series of papers from the advisory committee on the study of alcoholism at Boston City Hospital, sponsored by the WPA.

Three Indianapolis scientists announce in the same issue a rapid chemical test for intoxication that is made from the breath. The Boston investigators think blood alcohol determinations are superior.

"Alcoholic intoxication in the biologic sense without any gross manifestations of drunkenness can produce sufficient interference with psychomotor activity and neuromuscular coordination to render such an affected individual a potential public menace," Dr. Selesnick states.

The present accepted fifteen-hundredths of one per cent. blood alcohol as the level above which alcoholic intoxication is definite offers too wide a margin of laxity for the drinking driver, the experiments show. Dr. Selesnick expects to see this level lowered in the future.

Whether or not the driver has been drinking and what is the degree of alcoholic intoxication can best be deter-

The Golden Gate Exposition will have a special section devoted to the prevention of diseases that are transmitted to man from household pets and other animals. Among such diseases are tuberculosis, rabies and Malta fever. The American Veterinary Medical Association is planning this particular exhibit.

The two fairs will not open for over a year, and some details of the exhibits as described here may be altered before the opening days. Many exhibit sponsors, however, are already working with committees of the two fairs on their parts of the shows.

*Science News Letter, March 26, 1938*

mined, thinks Dr. Selesnick, by the chemical determination of body fluid alcohol. Such a test can detect degrees of intoxication that ordinarily escape the attention of competent physicians.

What if the accused driver refuses to submit to the extraction of blood for the test on the grounds that nobody can be made to testify against himself?

Blood extraction, contends the Boston physician, does not differ from finger printing. The same objections were raised regarding blood grouping tests in cases of disputed parentage. Several states enacted laws authorizing the court to order blood grouping tests when relevant, and similar laws could be enacted with regard to extraction of blood for the estimation of its alcoholic content.

The Indianapolis investigators—R. N. Harger, Dr. E. B. Lamb and F. O. Hulpieu—can make their test without touching the subject. A tube is held in the breath stream and a pump draws a sample of the breath through the apparatus.

Tests made on 121 subjects showed a good correlation between the concentration of alcohol in the blood and the amount of alcohol accompanying 190 mg. of carbon dioxide in the breath.

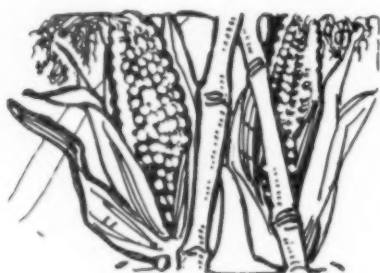
The weight of the alcohol accompanying 190 mg. of carbon dioxide in the breath is very nearly equal to the weight of alcohol in 1 cc. of the subject's blood.

*Science News Letter, March 26, 1938*

AGRONOMY—GEOGRAPHY

## NATURE RAMBLINGS

by Frank Thone



Naboth's Cornfield

**H**UNGARY, rather than Czechoslovakia, might well tempt the Nazis as the objective of their next coup. This rich valley kingdom, holding the best of the Danubian cornlands, could do much to offset the overindustrialized character of Hitler's Reich, made even more top-heavy by the recent annexation of Austria. Czechoslovakia, on the other hand, would be another Austria in this matter of adding still more urbanized industrial mouths to feed.

Hungary might well be termed the Iowa of Europe. Its resources are mainly those of a rich lowland soil and a climate that makes corn cultivation possible. Corn means hogs, and hogs mean the all-important *Fett* whose present shortage is a chronic economic headache in Germany. Corn cannot be raised to advantage in Germany; the country is too far north and the summer climate is too mild to grow and ripen it properly.

Postwar Hungary is nowhere near as large as the state of Iowa—only about

36,000 square miles as against the prairie state's 56,000. But the land is almost all tillable, and the people are good farmers. Almost equal to corn in importance as crops are wheat and potatoes, with sugar beets well up the list, and oats, barley, and rye in smaller quantities.

Geographically as well as agronomically, Hungary must be a tempting mouthful to an ambitious Mid-European dictator. It sits astride the Danube, the natural highway of the *Drang nach Osten* of prewar Imperial days. Farther downstream lie the fertile lowlands of northern Yugoslavia and the fat kingdom of Rumania—with more cornlands, and the timber and mineral resources of the Transylvanian Alps. Not to forget the oil wells!

To be sure, touching Yugoslavia would again flick a raw place on Mussolini's flank, already very sore at Brenner Pass. And if Rumania were added to the string, that would bring Naziland directly against a Russian frontier. But when you've developed a bumptious lick-creation complex, such considerations are trifles.

Hungary, and even Rumania, would probably not be nearly so hot to pick up as Czechoslovakia. Both countries are dictatorships already, both have been notable for anti-Semitic outbursts, both have rather flirted with Germany of late. Hungary, and the whole eastern half of postwar Rumania (Transylvania) were once ruled from Vienna. In general, neither is anywhere so near the sensitive nerves of France as is Czechoslovakia.

So it may be Hungary next, and after that Rumania. Who knows?

*Science News Letter, March 26, 1938*

Brick and cement are in great demand in Shanghai, as the Chinese attempt to rebuild the war-torn city.

### MEDICINE

## Committee of Physicians And AMA Trustees Confer

**R**EPRESENTATIVES of the Committee of Physicians and the Board of Trustees of the American Medical Association sat down together to discuss the problem of whether the two organizations are in opposition in their efforts to improve medical care.

This is evident from the fact that the *Journal of the American Medical Association* carries a statement (Mar. 12) which though it appears in the *Journal*, is critical of an editorial that appeared in the *Journal* on Oct. 16, 1937.

In this statement, Dr. John P. Peters, secretary for the Committee of Physicians, reiterates that opposition to the American Medical Association and advocacy of government control of medical practice are "foreign to the thoughts and intent of these physicians."

The false impression that the Committee of Physicians opposed the American Medical Association and favored state medicine arose, Dr. Peters suggests, from the *Journal* editorial and the subsequent publicity.

"The activities of the committee were thus made 'news' by this editorial," Dr. Peters states in the *Journal* columns. The committee had been making every effort to have its activities "presented to the public in a dignified and uncontroversial manner" when the complete draft of its Principles and Proposals became public property on Nov. 7.

"It is pertinent to note," Dr. Peters adds, "that a relatively small number of the 430 signators whose names were made public on Nov. 7 have written to the committee asking that their names be withdrawn from the list, while a considerable number have without further solicitation added their endorsements."

*Science News Letter, March 26, 1938*

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# •First Glances at New Books

## Botany

MARINE ALGAE OF THE NORTHEASTERN COAST OF NORTH AMERICA—William Randolph Taylor—*Univ. of Michigan Press*, 427 p., 60 pl., \$5. For botanists and oceanographers this book is of prime importance, and will command a place on the reference shelves of all working libraries of marine laboratories and universities where interest is maintained in the plant life of the sea. The line plates are clean-cut, and give adequate illustration of all critical points. A valuable feature is the 25-page bibliography.

*Science News Letter, March 26, 1938*

## General Science

REPORT OF THE ANNUAL MEETING, 1937—*British Association for the Advancement of Science*, London, 706 p., 15 s.; To libraries 10 s. The record of the most recent of Britain's great science meetings, bringing together all the material of the meeting, some of which was published at the time.

*Science News Letter, March 26, 1938*

## Natural History

AFRICAN HUNTER—Bror von Blixen-Finecke; F. H. Lyon, tr.—*Knopf*, 292 p., illus., \$2.75. Tales of the Kenya country, by a German who has lived there for 23 years. While this book does not profess to be zoological it nevertheless offers a good deal of first-hand field data on the larger mammals of the region.

*Science News Letter, March 26, 1938*

## Nursing

SURGICAL NURSING—Robert K. Felter, Frances West and Associates—*F. A. Davis*, 533 p., illus., \$3.50. A textbook by five competent authorities.

*Science News Letter, March 26, 1938*

## Mythology—Mineralogy

LEGENDS OF GEMS—Horace L. Thomson—*Graphic Press*, 135 p., \$1. This book combines the relating of some of the strange superstitions that have grown up around gems with a considerable body of solid fact about gems and gem minerals, and detailed instructions for cutting and polishing them. Should be especially useful to the amateur lapidary.

*Science News Letter, March 26, 1938*

## Ecology—Lexicography

AN ECOLOGICAL GLOSSARY—J. Richard Carpenter—*Univ. of Oklahoma Press*, 339 p., \$4. Ecology is a young science, yet it has already built up an astonishingly large vocabulary of special terms

of great usefulness because of their exact meanings, which have not yet been incorporated into general dictionaries. This book not only gives the meaning of the words listed but for the larger part of them cites original use, with date. All ecologists will be grateful to the compiler for the really awesome amount of labor he has spent for their convenience.

*Science News Letter, March 26, 1938*

## Juvenile

STORY PICTURES OF OUR NEIGHBORS—John Y. Beaty—*Beckley-Cardy*, 191 p., illus., 80 c. This book, illustrated in color, is intended for use in the second and third grades of primary school, but would be welcome in any home where there are young children. It describes a wide variety of occupations and industries.

*Science News Letter, March 26, 1938*

## Photography

NATURE PHOTOGRAPHY AROUND THE YEAR—Percy A. Morris—*Appleton-Century*, 251 p., illus., \$4. Suggestions by an experienced enthusiast on what to photograph and how to do it, presented along a chronological axis. The camera hobbyist who undertakes to do everything listed in this book will find himself pretty busy.

*Science News Letter, March 26, 1938*

## Biology

GUIDE TO HIGH SCHOOL BIOLOGY—Edna Craig and George K. Stone—*Macmillan*, 146 p., 96 c.

*Science News Letter, March 26, 1938*

## Education

HOW TO TEACH—Claude C. Crawford—*Southern California School Book Depository*, 511 p., \$2.50. A text for upper grade and secondary school teachers by the professor of education at the University of Southern California.

*Science News Letter, March 26, 1938*

## History

"SO YOU THINK IT'S NEW"—Wilfred J. Funk—*Funk and Wagnalls*, 198 p., illus., \$2. Price correction.

*Science News Letter, March 26, 1938*

## Bacteriology

PRINCIPLES AND PRACTICE OF BACTERIOLOGY—Arthur H. Bryan and Charles Bryan—*Barnes and Noble*, 267 p., \$2.25. A compact, practical textbook by an American-British team of authors, intended for use in first-year classes in bacteriology.

*Science News Letter, March 26, 1938*

## Marine Zoology

GIANT FISHES, WHALES AND DOLPHINS—J. R. Norman and F. C. Fraser—*Norton*, 361 p., illus., \$4. The sober facts underlying the tall tales told by fishermen and the even taller tales of sea monsters that get into the press from time to time, concisely set forth by a pair of sound English authors. If you want to know how much it's proper to believe (or if an angler, how much it's safe to claim) this is the book for you.

*Science News Letter, March 26, 1938*

## Meteorology

HURRICANES: THEIR NATURE AND HISTORY—Ivan Ray Tannehill—*Princeton Univ. Press*, 257 p., illus., \$3.50. Discussion of the scientific principles underlying hurricanes is illustrated with life-histories of typical storms of this class. Of special value are the detailed records of notable hurricanes of the nineteenth and twentieth centuries, and the 24-page chronological list going back to 1494.

*Science News Letter, March 26, 1938*

## Mathematics

ELEMENTARY MATHEMATICAL ANALYSIS—Theodore Herberg—*Heath*, 120 p., \$1.24. Mathematics for the last year of senior high school particularly aimed at qualifications of the requirements Mathematics Gamma, as designed by the College Entrance Examination Board.

*Science News Letter, March 26, 1938*

## Physics—Biology

PROPRIÉTÉS PIÉZO-CHIMIQUES, PHYSIQUES ET BIOPHYSIQUES DES ULTRA-SONS—N. Marinenco—*Hermann et Cie, Paris*, Part 1, 55 p., 5 pl., 15 fr.; Part 2, 68 p., 7 pl., 18 fr. A full discussion, in part mathematically expressed, of piezo-effects in chemistry, physics, and biology; this should be of considerable usefulness to special students in this subject.

*Science News Letter, March 26, 1938*

## Natural History

WORLD NATURAL HISTORY—E. G. Boulenger—*Scribner's*, 268 p., illus., \$3. A big three dollars' worth of natural history text and good pictures, by a British master of both the science of zoology and the art of its popular presentation, with an introduction by H. G. Wells. If you've a youngster of about junior high school age who is showing brisk interest in animals, this would make a nice present for him.

*Science News Letter, March 26, 1938*